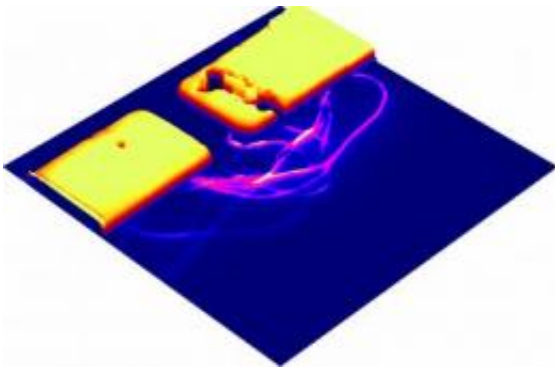


# New research may lead to revolutionary new devices

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Credit: Adam Tsen, Cornell University

Dr. Jiwoong Park of Cornell University, who receives funding for basic research from the Air Force Office of Scientific Research (AFOSR), is investigating carbon nanostructures that may some day be used in electronic, thermal, mechanical and sensing devices for the Air Force.

"Devices that are required in many of the Air Force missions are somewhat different from commercial ones in the sense that they are often exposed to harsh environments while maintaining their maximum performance," Park said. "Carbon-based nanostructures, including carbon nanotubes and graphenes (thin layers of graphite) present many exciting properties that may lead to new device structures."

Park's team of researchers is examining single molecules, nanocrystals,

nanowires, carbon nanotubes and their arrays in an effort to find a "bridging" material that has a stable structure for making molecular-level bonds. In addition, they are seeking an effective tool for resolving functional and structural challenges. If successful, they will be able to apply the research to future technological advances.

Park's research may contribute to the discovery of new electronic and [optical devices](#) that will revolutionize electrical engineering and bioengineering as well as physical and materials science.

As a result of Park's highly innovative work, the U.S. government has selected him to be a 2008 PECASE (Presidential Early Career Award in Science and Engineering) Award winner. The prestigious and much sought after award is the highest honor the government presents to promising scientists and engineers at the beginning of their careers. Each award winner receives a citation, a plaque, and up to \$1 million in funding from the nominating agency (AFOSR).

"I fully expect that over the five-year period of the PECASE award, Professor Park will have established himself as a world leader in [carbon nanotube](#) and graphene research," said Dr. Harold Weinstock, the AFOSR program manager responsible for nominating Park.

Source: Air Force Office of Scientific Research

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